DOCKET NO.: CNST-3169 **Application No.:** 10/013,985

Office Action Dated: June 27, 2003

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1-38 Canceled

- 39. (Previously presented) A wall for a package which comprises multiple polymeric layers, said multiple polymeric layers comprising a layer (A) and a layer (B), said layer (A) comprising an oxidizable organic polymer which scavenges oxygen, and a transition metal in a positive oxidation state, wherein said layer (A) the oxidizable organic polymer, the transition metal and the respective amounts thereof are selected so that the layer (A) will scavenge oxygen during a period of oxygen scavenging, the period of oxygen scavenging being maintainable for at least 20 days at 23° C and 50% relative humidity and the permeance of the wall for oxygen during said period of oxygen scavenging being not more than 0.5 cm³/ (m² atm day) and at most three-quarters of that which it would have had in the absence of oxygen scavenging; and said layer (B) comprising a nonoxidizable polymer.
- 40. (Withdrawn) The wall according to claim 39, wherein said layer (A) is adjacent said layer (B).
- 41. (Withdrawn) The wall according to claim 40, wherein said layer (A) is between and adjacent two said layers (B), one on either side.
- 42. (Withdrawn) The wall according to claim 39, wherein said wall is in the form of a rigid container which is self-supporting when empty.
- 43. (Withdrawn) The wall according to claim 39, wherein said oxidizable polymer is a copolymer of m-xylylenediamine and adipic acid.
- 44. (Withdrawn) The wall according to claim 43, wherein the polymer in said layer (A) consists entirely of said copolymer of m-xylylenediamine and adipic acid.

PATENT

DOCKET NO.: CNST-3169 **Application No.:** 10/013,985

Office Action Dated: June 27, 2003

45. (Withdrawn) The wall according to claim 44, wherein said nonoxidizable polymer is polyethylene terephthalate.

- 46. (Withdrawn) The wall according to claim 45, wherein said layer (A) is adjacent to said layer (B).
- 47. (Withdrawn) The wall according to claim 46, wherein said layer (A) is between and adjacent two said layers (B), one on either side.
- 48. (Withdrawn) The wall according to claim 47, wherein the wall is in the form of a beverage bottle.
- 49. (Withdrawn) The wall according to claim 39, wherein the period during which the permeance of the wall for oxygen is not more than 0.5 cm³/ (m² atm day) is at least 20 days.
- 50. (Withdrawn) The wall according to claim 49, wherein the period during which the permeance of the wall for oxygen is not more than 0.5 cm³/ (m² atm day) is at least 100 days.
- 51. (Withdrawn) The wall according to claim 39, wherein the permeance of the wall for oxygen during said period is not more than one-half of what it would have been in the absence of oxygen-scavenging.
- 52. (Withdrawn) The wall according to claim 51, wherein the permeance of the wall for oxygen during said period is not more than one-tenth of what it would have had in the absence of oxygen-scavenging.
- 53. (Withdrawn) The wall according to claim 39, wherein the permeance of the wall for oxygen falls to three-quarters of what it would have been in the absence of oxygen scavenging within 30 days of the wall being fabricated.

DOCKET NO.: CNST-3169 **Application No.:** 10/013,985

Office Action Dated: June 27, 2003

- 54. (Withdrawn) A bottle comprising a wall made of multiple polymeric layers, said multiple polymeric layers comprising at least one layer (A) and at least one layer (B); said at least one layer (A) comprising an oxidizable organic polymer which scavenges oxygen and a transition metal in a positive oxidation state, wherein in said at least one layer (A) the oxidizable organic polymer, the transition metal and the respective amounts thereof are selected so that the wall will scavenge oxygen during a period of oxygen scavenging, the period of oxygen scavenging being maintainable for at least 20 days at 23° C and 50% relative humidity and the permeance of the wall for oxygen during said period of oxygen scavenging being not more than 0.5 cm³/ (m² atm day); and said at least one layer (B) comprising a nonoxidizable polymer.
- 55. (Withdrawn) The bottle according to claim 54, wherein said wall is self-supporting when empty.
- 56. (Withdrawn) The bottle according to claim 54, wherein said oxidizable polymer is a copolymer of m-xylylenediamine and adipic acid.
- 57. (Withdrawn) He bottle according to claim 56, wherein said nonoxidizable polymer is polyethylene terephthalate.
- 58. (Withdrawn) The bottle according to claim 57, wherein at least one of said layers (A) is adjacent to at least one of said layers (B).
- 59. (Withdrawn) The bottle according to claim 58, wherein the polymer in said layer (A) consists of said copolymer of m-xylylenediamine and adipic acid.
- 60. (Withdrawn) The bottle according to claim 54, wherein the period during which the permeance of the wall for oxygen is not more than 0.5 cm³/ (m² atm day) is at least 20 days.

PATENT

DOCKET NO.: CNST-3169 **Application No.:** 10/013,985

Office Action Dated: June 27, 2003

61. (Withdrawn) The bottle according to claim 60, wherein the period during which the permeance of the wall for oxygen is not more than 0.5 cm³/. (m² atm day) is at least 100 days.

- 62. (Withdrawn) The bottle according to claim 54, wherein the permeance of the wall for oxygen during said period is not more than one-half of what it would have been in the absence of oxygen-scavenging.
- 63. (Withdrawn) The bottle according to claim 60, wherein the permeance of the wall for oxygen during said period is not more than one-tenth of what it would have had in the absence of oxygen scavenging.
- 64. (Withdrawn) The bottle according to claim 54, wherein the permeance of the wall for oxygen falls to three-quarters of what it would have been in the absence of oxygen scavenging within 30 days of the wall being fabricated.
- 65. (Withdrawn) A bottle comprising of a wall made of multiple polymeric layers, said multiple polymeric layers comprising at least one layer (A) having two nonoxidizable layers (B) adjacent thereto, one on either side; the polymeric material of said at least one layer (A) consisting entirely of an oxidizable organic copolymer of m-xylylenediamine and adipic acid, and said at least one layer (A) further comprising a transition metal in a positive oxidation state, wherein in said at least one layer (A) the oxidizable organic copolymer, the transition metal and the respective amounts thereof are selected so that the wall will scavenge oxygen during a period of oxygen scavenging during which the permeance of the wall for oxygen is not more than 0.5 cm³/ (m² atm day); and each said at least one nonoxidizable layer (B) comprising polyethylene terephthalate.
 - 66. (Withdrawn) The bottle according to claim 65, containing a beverage.

DOCKET NO.: CNST-3169 **PATENT**

Application No.: 10/013,985

Office Action Dated: June 27, 2003

67. (Withdrawn) The bottle according to claim 66, wherein said beverage is beer, wine, fruit juice, or soft drink.

- 68. (Withdrawn) The bottle according to claim 67, wherein said beverage is beer.
 - 69. (Currently Amended) An oxygen-scavenging composition comprising: a <u>non-oxidizable</u> polyester component;

an a polymeric organic oxidizable component; and

a transition metal in the positive oxidation state that eatalyzes promotes the oxidation of the polymeric organic oxidizable component, the relative proportions of the polyester component, the organic oxidizable component, and the metal being such that that, when incorporated into a monolayer container wall, including the composition the monolayer container wall achieves an oxygen permeance of not more than 10.0 cm³ mm/m² atm day, in part as the result of the transition metal in the positive oxidation state promoting the oxidation of the polymeric organic oxidizable component.

- 70. (Currently Amended) The composition of claim 69 in which wherein the relative proportions of the polyester component, the organic oxidizable component and the metal are such that a monolayer container wall including the composition achieves an oxygen permeance of not more than 1.5 2.0 cm³ mm/m² atm day, in part as the result of the transition metal in the positive oxidation state promoting the oxidation of the polymeric organic oxidizable component.
- 71. (Currently Amended) The composition of claim 70 in which wherein the relative proportions of the polyester component, the organic oxidizable component and the metal are such that a monolayer container wall including the composition achieves an

DOCKET NO.: CNST-3169 **PATENT**

Application No.: 10/013,985

Office Action Dated: June 27, 2003

oxygen permeance of not more than 0.5 cm³ mm/m² atm day, in part as the result of the

transition metal in the positive oxidation state promoting the oxidation of the polymeric

organic oxidizable component.

72. Canceled.

(Currently Amended) The composition of any of claims [[69-72] 69-73.

<u>71 in which wherein the non-oxidizable polyester component is polyethylene terephthalate.</u>

74. Canceled.

(Currently Amended) The composition of any of claims 69-71 claim 75.

74 in which wherein the non-oxidizable polyester component and the polymeric organic

oxidizable component are separate polymers.

76. (Currently Amended) The composition of claim 75 in which wherein

the polymeric organic oxidizable component contains units of the formula -NH-CH₂-arylene-

CH₂-NH-CO-alkylene-CO-.

(Currently Amended) The composition of claim 76 in which wherein 77.

the polymeric organic oxidizable component is MXD6.

78. (Currently Amended) The composition of claim 77 in which wherein

the non-oxidizable polyester component is about 96 % by weight of the oxygen-scavenging

composition.

79. (Currently Amended) The composition of claim 78 in which wherein

the oxidizable component is about 4% by weight of the oxygen-scavenging composition.

80. (Currently Amended) The composition of claim 79 in which wherein

the transition metal component is cobalt.

Page 7 of 20

DOCKET NO.: CNST-3169 PATENT

Application No.: 10/013,985

Office Action Dated: June 27, 2003

81. (Previously presented) The composition of claim 80 wherein the monolayer wall is formed from the composition.

82. (Previously presented) An oxygen-scavenging composition

comprising:

a non-oxidizable polyester component;

a polymeric organic oxidizable component; and

a transition metal in the positive oxidation state that promotes the oxidation of the polymeric organic oxidizable component that, when incorporated into a monolayer container wall, the monolayer container wall achieves an oxygen permeance of not more than three-quarters of the permeance of the monolayer wall in the absence of oxygen scavenging as a result of the transition metal in the positive oxidation state promoting the oxidation of the polymeric organic oxidizable component.

- 83. (New) The composition of claim 2, wherein the oxygen-scavenging composition achieves an oxygen permeance of not more than one-half of the permeance of the monolayer wall in the absence of oxygen scavenging.
- 84. (New) The composition of any of claims 82-83 wherein the non-oxidizable polyester component is polyethylene terephthalate.
- 85. (New) The composition of any of claims 82-83 wherein the non-oxidizable polyester component and the polymeric organic oxidizable component are separate polymers.
- 86. (New) The composition of claim 85 wherein the polymeric organic oxidizable component contains units of the formula -NH-CH₂-arylene-CH₂-NH-CO-alkylene-CO-.

DOCKET NO.: CNST-3169 PATENT

Application No.: 10/013,985

Office Action Dated: June 27, 2003

87. (New) The composition of claim 86 wherein the polymeric organic oxidizable component is MXD6.

- 88. (New) The composition of any of claims 82-83 wherein the transition metal component is cobalt.
- 89. (New) The composition of claim 87 wherein the transition metal is cobalt.